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THE JOURNAL OF PHILOSOPHY

GENETICISM AS A HEURISTIC PRINCIPLE IN PSYCHOLOGY[1]

ATTENTION was called in 1914 by Professor Cohen[2] to the errors inherent in the use of the historical methods of explanation commonly employed in certain fields of inquiry. To him there appear to be in the popular philosophy of the day two more or less axiomatic principles. One is that nothing is explicable except in terms of its history; the other is that value is independent of history. These two principles, though dwelling together in modern thought in apparent peace, are essentially antagonistic. They are indeed the lineal descendants of the ancient feudists, the rationalists and the empiricists. The use of the historical method rests as a heuristic principle upon an assumption which is essentially rationalistic, its fundamental dogma being that the past completely determines the present. This seems true in spite of the fact that the method arose in part at least as a protest against rationalism. Spencer, whose philosophy is a wholesale application of the historical method, calls attention[3] to the disposition of his time to make use of it in lieu of the current doctrines of creationism.

Although Cohen proposes to concern himself with mental sciences he leaves psychology out of account, taking up in order Economics, Jurisprudence, Politics, Ethics, Religion and Philosophy, pointing out the errors that arise from the exclusive dependence on historical methods in these several fields. To "subordinate economic science to economic history," for example, has turned out to be misleading. It has resulted in a movement, under the leadership of Carl Bücher, back to psychology and anthropology. In jurisprudence the revolt of Eichhorn and Savigny from older methods and their emphasis on the supreme importance of history has in turn led to an even graver danger. It has been, in Cohen's opinion, a " positive hindrance to any improvement or enlargement of the law—precisely because those who think of new problems exclusively in terms of historical analogies get tangled up in their own traces and think that what has been must remain forever." The

[1] Presidential address delivered before the Southern Society for Philosophy and Psychology, Macon, Ga., March 26, 1921.

[2] "History versus Value," this JOURNAL, Vol. XI, pp. 701–716.

[3] *Principles of Psychology*, I, 466.

error of historicism in politics rests on the assumption that *Die Weltgeschichte ist das Weltgericht*, that if the facts of history are allowed to tell their own story they will show the suicidal character of injustice and the ultimate triumph of right, a doctrine which is, in his opinion, brutal and immoral. In religion historicism has had an important effect. But even here, where tradition means much, while the orthodox are tracing out apostolic succession, *etc.*, the heterodox are carrying us back to phallic worship and the life of primitive man. So that we are confused to know in terms of which group we are to make our judgments. In philosophy Cohen holds that historicism breaks down since that subject is not a branch of archæology, and since the truth of a philosophic doctrine does not rest upon historical sequence. Many of the great constructive minds in philosophy have been unacquainted with their predecessors, so that it would be impossible to say that the past in this field determines the present.

It seems to have escaped Cohen's notice that there are in psychology, as he says concerning these other sciences, " brave souls who have taken the historical faith quite seriously and have actually attempted to make the historical point of view replace or supersede all independent method or standpoint of evaluation." The purpose of the present paper is to extend his criticism to psychology and to show certain seemingly erroneous implications in its use in this field. We have had no end of controversy concerning the validity of introspectionism and behaviorism, but it seems that the validity of historicism as a method of psychological inquiry has been taken more or less for granted. The doctrine of recapitulation, to be sure, has been successfully called in question, but while recapitulation may be considered an outgrowth of historicism the two conceptions are distinct.

Historicism in psychology is better known as geneticism. Professor Baldwin in his Dictionary defines the genetic method as " the explanation of things, for purpose of instruction, according to their genesis or manner of coming into being." D. J. Hill[4] says, " The genetic method, then, consists in referring every fact to its place in the series to which it belongs. An alleged fact is entirely meaningless until it is restored to its serial relation. When thus restored, it is seen to be a part of the real order, the outgrowth of its own antecedents, and it is thus unified with other facts as part of a continuous whole."

Although frequent use is made of geneticism by psychologists of all schools, no one has championed the method itself as has Dr. G. Stanley Hall. Because of his acknowledged leadership in this field

[4] *Genetic Philosophy*, p. 14.

it seemed fair to illustrate the use of the method by reference to certain of his well known writings. The gist of his position is to be found in a monograph,[5] the title of which is " A Glance at the Phyletic Background of Genetic Psychology." At the outset he asserts the reality of time as a sort of fundamental principle from which the genetic method must proceed, thus falling perhaps unconsciously into rationalistic usages, from which, as we have seen, the genetic method in general was supposed to have revolted. Be that as it may, the psychologists, he says, who would undertake to explain mental reactions in terms of what goes on in the laboratory are intellectually myopic. As well might a geologist attempt to understand the fossils and strata of the earth by mere chemical analysis of them. The psychologists must adopt the geologist's method, and acquire some of his time sense. There are layers, strata, "pubic beaches," and the like in the mind of man, which can only thus be made intelligible.

The genetic inquiry is not only pushed indefinitely backward in time but also downward, if we may so say, in the direction of the inanimate. The performances of radium, cyanogen, carbon, *etc.*, are reviewed in connection with a search, that is almost pre-Socratic in intent, for a *materia prima*. The behavior of metals under torsion, their fatigue, and recuperation are suggestive of vital processes. The action of crystals and foams shows the possibility of completing the genetic series, leaving no gap from top to bottom, if such a scheme of things may be said to have a top and a bottom. Matter in the genetic system must, of course, contain the promise and potency of all things. Hall thinks that " The secrets of the origin of soul are now more and more clearly seen to be bound up, if not identical, with those of the origin of life, and the beginnings of both stretch back ever farther in time and down the scale of simplicity so that their primordial germs must be coeval with the dawn of matter and with time itself. Although, as we know them in their present forms, they seem incommensurably different from the life of the physical universe, they are, in fact, products of an evolution that has proceeded by insensible gradations with *no rupture of identity*" (Italics mine).[6]

He further says that his own experiments with certain plants have convinced him that they show " a behavior that can hardly be entirely excluded from Psychology."[7] Thus " the unity between plants and animals is fundamental and detailed, and just so far as psychology becomes a natural genetic science it will trace all

[5] *American Journal of Psychology*, Vol. XIX, 1908, 149–212.
[6] *Ibid.*, p. 168.
[7] *Ibid.*, p. 186.

higher powers back to those we have in common with plants and the simplest animal forms, and vice versa, derive all the former from the latter."[8]

The genesis of consciousness and its place in the genetic series brings out this suggestion, whatever it may mean, which serves at least as an attempt to bridge a famous chasm: "What we call conciousness is derivable from the suddenness of the biometamorphosis with which new balances are attained and to the more complex and manifold changes that this involves in higher organisms which are susceptible to shock in a different way." It seems not only justifiable but necessary to bridge this chasm in the genetic series by some means, by a figure of speech *à la* Santayana, if by nothing else. Hall prefers " to defy the current horror of anthropomorphism and to show a decent respect to continuity." " Only to speculative and monodeistic minds," says he, " can the question between some psychic rudiment and tropism be so put that we must cleave to the one and despise the other." This situation again illustrates the rationalism of the genetic method.

In facing such gaps as these in the genetic series it is interesting to note that the geneticist apparently cleaves to his conception of the continuity of things and despises the evidences for any rupture of identity even to the extent of accusing those who have respect for such evidences of being " speculative," or wedded to a system.

The logical upshot of geneticism must necessarily be that all vital phenomena are ultimately explicable in terms of mechanical laws. In fact, unless there is an "unruptured identity" throughout the genetic series the method is valueless, for otherwise, in tracing our phenomenon backward in time for purposes of explanation, it would disappear in our grasp. Hall at least does not shrink from the logical consequences of this necessity. He holds[9] that " one day physiology, if not psychology itself, may be expressible in chemical formulæ."

This notion of continuity is found not only in genetic psychology but in the literature of psychology in general in the form of the ancient doctrine of essences, of things in themselves. The older terminology has been changed, but the idea may be found intact in the frequent statements in which mental processes, functions, *etc.*, are described as being " at bottom " so and so. " At bottom " may without violence to the intended meaning be translated as " *in esse.*" For instance, we find the suggestion that plant protoplasm is at bottom crystalline; that at bottom man is a vegetative being;[10]

[8] *Ibid.*, p. 187.
[9] *Ibid.*, p. 195.
[10] *Ibid.*, p. 161.

that we can not know self in any " fundamental " way until we know protoplasm and the amœba; that " perhaps when we know why one thought or feeling is preferred to another it may some time be clear that it is ' at bottom ' because it favors cerebral or general nutrition." [11]

So much for a statement of the genetic method and the hypothesis upon which it proceeds. It is understood that no legitimate objection can be made to the study of the natural history of mind, or to the use of the genetic method in the examination of such a history. A purely methodological issue is here raised in the form of an objection against the assumption, wherever it may occur, that the genetic "explanation" is exhaustively explanatory, and that its conclusions are always valid. Wherever this assumption is made, the fundamental error of it is apparently the one to which Cohen has directed our attention in the fields of inquiry already alluded to, namely, the error arising from a confusion of history with valuation. Against this undiscriminating use of the genetic method in psychological inquiry I beg to submit the following objections:

(1) In the first place the demand for the continuity of essence is a logical demand. Thanks to Bergson we now have the audacity to question the validity of such a demand. We can recognize it as but another of those " musts " from which science broke away in comparatively recent times. But like a Freudian dream it escapes the censorship of our minds because it is disguised in more acceptable terminology. In this manner it returns to play a part in the thinking of the day. The very words of this logical obsession, however, will at times betray its presence, as when John Burroughs, the naturalist, says, " No extrinsic condition could have made a man out of a worm, the man scheme must have been inherent in the worm." Both the notion of the " man scheme " and the authority of the " must " are clearly rationalistic. Mr. Burroughs seems here to be espousing the genetic method as the only alternative to creationism. This illustrates the fact that the biological sciences, psychology included, are ready to accept all the consequences of one of two ancient alternatives when the other has been discarded. But we may not play both fast and loose with our logic, for if it demands that the man-scheme must be found in the worm, would it not also demand that it must be found in those primordial conditions, whatever they may have been, from which the worm itself came, and so on in indefinite regression, for, as Stewart puts it,[12] " the only possible issue of such determinism would be to say for example that the whole social and moral progress of the human race was implic-

[11] *Ibid.*, p. 191.

[12] *Questions of the Day in Philosophy*, p. 155.

itly present in that molten mass which scientists tell us constituted our earth at the stages when the heat was too intense to allow the presence of life." William James[13] and Lloyd Morgan[14] have recognized the same crisis of reasoning.

The genetic hypothesis seems to assume that whatever aspect of human experience we may desire to examine is to be found, if not in the nebula, at least in some form of existence that is lower in the scale than the point in the phyletic series at which the phenomenon is being examined. We are familiar with the assumption in comparative psychology that the differences between the mind of man and that of the lower orders is one of degree and not of kind, *i.e.*, it is a matter of more or less, the essences, if you will, remaining the same. The higher is assumed to be present in the lower, and all that subsequent evolution can add amounts to mere accretions of secondary or non-essential characteristics. The use of the notion of differences in kind and differences in degree, if followed persistently, can be made to lead to queer results. It sometimes would appear that the only differences that exist between things at all are reducible to differences in degree, if one is allowed to choose the aspect from which they are to be compared. For instance, land animals and aquatic animals may from some viewpoints be considered different in kind, and yet, if the part which water plays in the life economy of each be taken as the point of comparison (surely a fair one in this case), the difference becomes one of degree when one thinks of the proportion of water in the living cells of the bodies of so-called land animals. Again, sea-water and human blood surely could be regarded as different in kind from some points of view. Yet Professor Macallum has suggested that the blood in the human body is but a modified form of the water of the Pre-Cambrian seas. The distinction represents one of those snares into which logic will betray itself when pushed into finalities. What except the relentless urge of logic could drive us to demand a psychology of lettuce or to imagine the phlegmatic temperament of cabbage? Our minds seem held by the conviction that what is must always have been, that nothing new can come into existence. This conviction is one of the subtle perversions of the laws of cause and effect and of the conservation of energy. The dictum that every effect must have an exactly commensurate cause is a different thing from saying that every evolutionary antecedent is identical in essence with its successor. "The intellect," says Bergson, "does not admit the unforeseeable. It rejects all creation. That definite antecedents bring forth a definite consequent, calcu-

[13] *Psychology*, Vol. I, p. 149.

[14] *Introduction to Comparative Psychology*, Ch. XVIII.

lable as a definite function of them, is what satisfies our intellect."

This, it would seem, is the logical demand that has constrained us to build a line of biological essences, and has led us in our study of mental phenomena to pursue them beyond their vanishing point and to evaluate them in terms of that which, from certain aspects at least, they are not. It is the same logical demand that has misled us into confusing historical continuity with historical identity. The spirit of present-day thinking does not seem to insist so much that evolution shall, as logically conceived, run smoothly. What if it does not do so? Will not the processes of life go on and the sun continue to rise without the crowing of a logical chanticleer? Some of the most fundamental hypotheses in the physical sciences are altogether illogical. It is difficult to understand why psychologists should be expected to have so much more sensitive consciences about logical consistency than other scientists. One *can* see why they above all others should be able to appreciate the fallibility of logic.

(2) Again it is to be observed in criticism of the genetic method that in spite of its insistence on the introduction of the time element into our explanations of mental phenomena, when it comes to saying what a certain thing really is, the time factor is reduced to the zero point, and some arbitrarily chosen cross-section of the life history of it is selected and this is declared to be the point at which the phenomenon in question is to be found in its ultimately real form. In the genetic procedure the usual method is to strip the phenomenon to be studied of all supposed evolutionary accretions, or addenda, of all characteristics that have not endured through a satisfactory lapse of time. To the geneticist the old is the real, the quintessential. Before he is ready to say that any phenomenon is " at bottom," or " nothing but " so and so, he must continue the process of elimination of all qualities of a more or less complex or evolved kind to an indeterminate stopping point. If the process were indefinitely continued he would in the end arrive, as we have just pointed out, at a meaingless core of material substances and forces which would be embarrassing in the hands of a psychologist if this were all that he had left. Psychology would at such a point, and indeed at all points, be compelled to foreclose in favor of mechanics. But in order to avoid bankruptcy of this kind the geneticist chooses a stopping point at which he locates the genesis of the presumably essential characteristics. It is very necessary to know, and for the geneticist to declare, by what right these points are selected, and by what criteria the choices are determined. Is not the geneticist compelled to abandon his geneticism in making use of such starting points? Woodbridge[15] points out that history

[15] *Purpose of History*, p. 63.

can have neither ending nor beginning. In tracing beginnings he says we " stop only because we do not care to go farther, or lack the means to do so, and not because we can say that we have found a first beginning with no antecedents before it."

Hence we see one of the chief difficulties in explaining things genetically or in terms of history, for, since nothing can be stated in terms of its entire history the geneticist is compelled to resort to cross sectional explanation, which he starts out by condemning. Now, if, as Woodbridge points out, there are no stages, stations, stops or beginnings and endings in history and if, as certain psychologists hold, there is " no rupture of identity " in the phyletic series, it would seem sound to claim the superiority of the more accessible present cross-section as the best cross-section for scientific investigation, as indeed the introspectionists are supposed to assume. The examination of phenomena in their simplest forms has its obvious advantages, whether these forms can be produced artificially under experimental control or can be found in nature. But this admission does not justify the conclusion, so often found implicit in psychological thinking, that the simplest forms contain all that is real and essential in the complex. Aristotle says,[16] " The nature of anything, *e.g.*, of a man, a horse, or a house, may be defined to be its condition when the process of its production is complete." One can not see how this is any less sound than the geneticist's method of " defining things in terms of their origins," for after all, who is competent to judge between the several contending cross-sections? There are cross-sections, it must be remembered, not only on the time scale, but also on the scale of simplicity.

(3) In the third place, history is one thing, evaluation another. In calling attention to this point years ago William James[17] said that the logic of the times recognized " two orders of inquiry concerning anything." The answer to the first inquiry is an existential judgment or proposition. The answer to the second is a proposition of value. Most important of all he calls our attention to the principle that " neither judgment can be deduced immediately from the other." " They proceed," he says, " from diverse intellectual preoccupations, and the mind combines them only by making them first separately, and then adding them together." The use in psychology of the terms "at bottom," " nothing but," " in essence," and the like, generally discloses an instance of immediate deduction of value from history. That a widespread use is made of this deduction would scarcely admit of doubt. Woodbridge says,[18]

[16] *Politics*, I, ii, Weldon's trans.

[17] *Varieties of Religious Experiences*, p. 4.

[18] *Loc. cit.*

" Relieved of the necessity of explaining continuity, philosophers, biologists, historians, and even students of language, literature, and the arts have been too frequently content to let the fact of continuity do all the explaining that needs to be done. To discover the historical origins and trace the descent of ideas, institutions, customs, and forms of life, have been for many the exclusive and sufficient occupation to the neglect of experimental science and with the consequent failure to make us very much wiser in our attempts to control the intricate factors of human living. If we would appreciate our own morals and religion we are often advised to consider primitive man and his institutions. If we would evaluate marriage or property, we are often directed to study remote ancestors. And this practical advice has sometimes taken the form of metaphysics. If we wish to know the nature of things or to appraise their worth, we are told to contemplate some primitive cosmic stuff from which everything has been derived. Thus man and all the varied panorama of the world vanish backward into the nebula, and life disappears into the impulse to live."

The axiomatic principle to which Cohen called our attention, namely, that " nothing is explicable except in terms of its history," becomes quite easily transformed in practise into its much more radical converse that everything is explicable in terms of its history. From this the step is easy to the assumption that history exhausts the possibilities of knowledge, to the identification of history with valuation. Evolution, according to this conception, would have to be pictured as an infinitely long chain with equality signs written between each link. It is not to the links but to the equality sign that objection is meant to be raised.

That a confusion of history and valuation occurs even in the commonplace affairs of life is indicated by the ordinary experience that a prophet is not without honor save in his native land, the reason being that his neighbors know his origin and history, and hence feel that by that fact they know his worth. The question, " Is not this the carpenter's son?" illustrates this common illusion of knowledge. The feeling of a sense of insecurity in the presence of the strange, the novel, is dispelled by a knowledge of origins and history, which in turn gives way to a comfortable feeling of security and mastery, a feeling which doubtless accounts for this illusion and which completely satisfies certain types of inquiry, leaving no curiosity for further investigation. It is a significant observation that the study of social origins sometimes begets a disregard for the authority and value of social conventions. This could not be if history were not assumed to be the equivalent of valuation. While evolutionary science has wrought an emancipation of the human

mind and has effected a disillusionment of man concerning his origin, it has bequeathed him an illusion and a sophistication which are no better grounded in fact than his former conceptions and which are probably less valuable socially.

(4) Turning to the question of fact we find still another criticism against the validity of the genetic method. If we lay aside the notion of essences, it does not appear to be true that natural phenomena have maintained an unruptured continuity throughout their history. This may be shown in morphological changes that are supposed to have taken place in the progress of evolution. The suggestion is made[19] that the thymus gland, the mouth, the olfactory organs and certain parts of the ear may have evolved from the gill slits. Now if it be granted that these or similar things have occurred in nature the genetic hypothesis becomes at once discredited. For once you attempt to define or explain a certain structure by it you will have to reduce that structure back at least to a point at which it has completely changed both its form and its function. Such a reduction would be of doubtful explanatory value, except in so far as it would add the item of knowledge that a certain step occurred in the genetic series. Now, if we mean by explanation just that, then geneticism is exhaustively explanatory, but when we have chosen to adopt such an interpretation of what shall be meant by explanation, are we not in that very act using valuation, which by hypothesis is inconsistent with the genetic method of explanation?

Psychologists have never hesitated to adduce such facts as these, sometimes in seeming disregard of their bearing upon the method which they were employing—the identification of the smile, by Spencer I believe, with the act of opening the mouth to receive food, the tracing of will back to the same food-seeking act by Hall,[20] the reduction of the process of laughter back to the shaking of the sides to rid the creature's skin of stinging insects. And so all the elements of human experience become explained by or identified with their genetic forebears.

In no realm is this criticism of fact against the genetic method more effective than in that of social phenomena. The *raison d'être*, the structure, and the function and purpose of institutions may change from age to age, and yet they may show unbroken continuity. This sort of change would admit of many illustrations.

In certain classes of phenomena it is to be admitted of course that history affords the most important available data. It is doubtless true that the early development of the genetic method took place in the treatment of matters of this kind. Hill[21] illustrates this

[19] Partridge: *Genetic Philosophy and Education*, p. 29.

[20] *Loc. cit.*, p. 191.

[21] *Genetic Philosophy*, pp. 14–15.

use by supposing that an archeologist should find a bronze axe in a mound of shells. It is obvious at once that this instrument was made by man, and that it belongs to a certain stage of human culture. But he says if we desire to go further we can only follow the genetic method. As soon as we abandon this method, " all scientific thought stops short and all other thought is nugatory."

In archeology the question of chief consideration is, admittedly, the location of the phenomenon at its proper point in the historical series. Most of all one wants to know to what period of history a certain custom or thing belongs in order to relate it to its particular time setting. In the case of these phenomena which do not function in the present time setting, history has its maximum importance as compared with valuation. But even in such cases as that of the bronze axe the historian may be so exclusively historical in the handling of his data that ideas which had been concrete and vital in their time setting may grow into meaningless abstractions. The proper sort of history of philosophy, for example, says Balz,[22] should help to "free philosophic thought from over-respect for the past, to provoke a more forward-looking manner of thinking, and make history an aid and not an obstacle in the pursuit of wisdom." This plea is a pertinent one for psychology. For example, the phenomenon of agarophobia, the fear of open places, may be made more intelligible by reference to the dangers incurred by our ancestors through exposure to enemies in open spaces. In this instance our only question and our only interest may be, whence did it come, how did it arise? In other words, since it now has no *raison d'être*, in order to be able to make it intelligible we must carry it back to the point of time at which it did have significance, meaning, value. And it is in terms of its one-time value after all that we seek its explanation. Merely to run it back in the temporal order can not of itself satisfy all inquiry.

(5) There seems to be an identical case against those who, for purposes of explanation, reduce natural phenomena down the scale of simplicity without the employment of the time factor. Geneticism, as we have seen, assumes, and indeed must assume, the validity of both methods. So long as we arrive " at bottom " the geneticist seems content. The attempt in physiology to express vital processes in terms of lower, simpler mechanical action has, we are told,[23] not met with success. Haldane[24] says, " The new physiology is biological physiology—not bio-physics or bio-chemistry. The attempt to analyze living organisms into physical and chemical mechanism is

[22] This JOURNAL, Vol. XVI, 41.

[23] McDougall: *Body and Mind*, p. 253.

[24] *Science*, Nov. 3, 1916.

probably the most colossal failure in the whole history of modern science. It is a failure, not, as its present defenders suggest, because the facts we know are too few, but because the facts we already know are inconsistent with the mechanistic theory."

This latter method might be called analyticism. Geneticism and analyticism have certain features in common. They both seek to explain the complex in terms of the simple. In analyticism the phenomenon is reduced to its lowest terms, whereas in geneticism the endeavor is made to find it thus reduced in nature, or else to deduce what must have been its simplest form at some distant point of time. Both geneticism and analyticism assume the explicability of the complex in terms of the simple. An example of this assumption can be found in *The Text Book of Psychology* by Titchener (p. 238). He says, " experiences which may be analyzed into organic sensations are complexes of organic sensations, and nothing more or less." This is clearly another case of " at bottom " explanation. The underlying assumption may be considered to be the basis and background of introspectionism. It is also doubtless the logical demand back of the contention, in the now somewhat quiescent imageless-thought controversy, that all that there is in mental processes must reveal itself in the structural elements of mental content.

As with geneticism, we may confine ourselves to a search for the elemental components of mental processes, and we may assume at the outset that we shall mean by explanation precisely that and nothing more. No one questions the right of a scientist to prescribe the conditions of his own inquiry. But it must be borne in mind that an inquiry thus prescribed can not pretend to answer all the demands of all sorts of explanations that could arise. The knowledge that water is composed of hydrogen and oxygen might be sufficient for a chemist, but not for a gardener. While Herbert Spencer's method is primarily that of the geneticist, attention has been called to the fact that his sociology suffered from use of the analytic method in that he centered attention on the units of the social groups to the disregard of their unity. Both geneticism and analyticism are after all only heuristic principles, and as such are useful only in so far as they yield desired results.

(6) In conclusion let it be understood that the main contention of this paper is that fact and value should be kept distinct in scientific treatment. Whether science should take account of value is another question, and one on which there is a difference of opinion. According to Titchener[25] " science deals, not with values, but with facts. There is no good or bad, sick or well, useful or useless, in

[25] *A Beginner's Psychology*, p. 1.

science," says he. On the other hand we have the view of Everett, who says[26] that " the distinction . . . is no longer one between descriptive sciences of what is, and non-descriptive sciences of what is not, but what ought to be; it is a distinction between descriptive sciences of facts indifferent in value, and descriptive sciences of what may be called value-facts." Kantor takes the position[27] that " the facts of science are evaluations of phenomena," and that psychology should be treated as a " science of critical evaluation." It is interesting to note that the first sentence of Titchener's *Beginner's Psychology*, to which reference has been made, is this: " We live in a world of values." The text is presumably proposing to examine the human instrument, the mind, by which this " world of values " gets understood and by means of which vital adjustments are made to it. To separate thought from its object, to treat mind in complete disregard of its environing world is a species of psychological dualism against which psychologists should not need to be warned.

Psychology has ceased to occupy itself exclusively with structural analysis of the content of consciousness. The chief inquiry at the present has reference to the functional efficiency of mental components revealed by such analyses. Indeed, in the theoretical study of mental tests and especially in practical psychology, we are recognizing and are endeavoring to differentiate " the good and the bad, the sick and the well, the useful and the useless." In short we have crossed the Rubicon and are busy in the domain of psychological values. Hence any confusion of fact and value will have consequences for the future of psychology. To resolve psychology into the natural history of mind and to make no distinction between history and value, after the fashion of the geneticists, would be as foreign to the purposes of functional psychology as structural analysis itself has been.

JOHN M. FLETCHER.

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THE ANNUAL MEETING OF THE WESTERN DIVISION OF THE AMERICAN PHILOSOPHICAL ASSOCIATION

A LARGE attendance, with a full programme of thoughtful and interesting papers and discussions, and a spirit of that rare fellowship possible to those devoted in common to philosophical pursuits, conspired to make distinctly successful the meeting at the University of Chicago on March 25 and 26.

[26] *Moral Values*, p. 16.

[27] "Psychology as a Science of Critical Evaluation," *Psychol. Rev.*, Vol. XXV, No. 1, pp. 1–15.

The morning session of the first day centered about ethical problems; in the afternoon, the papers were psychological in character; the evening was set aside for the annual dinner and for the address of the president. Discussing the topic, "Modern Idealism and the Logos Teaching," President E. L. Hinman contended that, consistently developed, modern idealism issues in a view essentially identical with the logos doctrine of Christianity. He analyzed more particularly the thought of Bosanquet and of Radhakrishnan with a view to showing that their appraisals of theism are incompatible with the deeper motives of their philosophical systems. The logical implications of modern idealism, it was argued, are not pantheistic but theistic.

On Saturday two sessions were held. At the one there were papers on miscellaneous topics. In the afternoon the members organized themselves into three prearranged groups in order to discuss informally subjects selected and announced, with bibliographies, by persons vested with the responsibility of leadership. The one group had as its topic, "The Existence and Nature of the Psychical, with Especial Reference to the Standpoint of Pragmatism." Very unfortunately, the appointed leader, Professor Arthur O. Lovejoy, had some days previously been unexpectedly called to California. However, the bibliography he had announced included titles by Professors Bode and Mead and, as these gentlemen were present, they were prevailed upon to open the discussion. The latter revolved about the following theses advanced by Professor Bode: (1) Conscious behavior differs from pure mechanism in that it represents a control by the future. This it does because it involves recognition, namely, a control by objects possessing meaning—meaning, however, which, in this its primary manifestation, coalesces with the object. (2) In situations of stress and strain, when there are competing meanings, the latter may become detached from the object. The object may then drop from consideration and the meanings come to function independently as instruments of control. (3) Conscious behavior is unique in that activities are set up for securing a more adequate or satisfactory stimulus, a goal which gives to them an experimental character. (4) Those traits of experience which consist of fairly definite and fixed qualities constitute the objects of experience, while those traits which are unsettled, undetermined, incomplete, vague or blurred contitute the psychical.

Under the leadership of Professor E. B. McGilvary, a second group discussed the bearing upon metaphysics of the theory of relativity, especially as this appears in Whitehead's two books *Principles of Natural Knowledge* and *The Concept of Nature*. Pro-

fessor McGilvary contended that the theory affords no warrant for maintaining that physical objects undergo a change in length when set in motion. This and other paradoxes disappear when we remember that the theory operates with different time systems. It is, therefore, the theory of time that is primarily affected by the doctrine of relativity. Though mere sequence relations (or what Whitehead calls " the passage of Nature ") remain the same as in the classical view, the acceptance of relativity would compel one to give up the notion that there is only one system of simultaneities. There are innumerable such systems, each forming a " time-system." As the " length " of any line is the distance between its endpoints at any *one* time, as measured by some standard length at the *same* time, and as what is " one time " in the line of relative motion in one time-system is not " one time " in any other, differences in the " length " of any segment of any line parallel to the line of relative motion are inevitable. This explanation of the paradox about the " change in the length of lines " led to the query why the leader sought the relativity in the time rather than in the space system; also whether he did not reflect a bias against abandoning an absolute. Einstein takes the velocity of light as a kind of absolute and Whitehead, from a different approach, takes " slabs of nature " as the basis of his account of simultaneities. Professor McGilvary maintained that not interest in any sort of absolute, but escape from contradiction was his concern. The members of the group showed wide differences of opinion as to whether an acceptance of Einstein's theory of relativity necessitates any radical metaphysical revisions.

The third group concerned itself with the question, "Are Volitions Independent of Instinct." The leader, Professor J. D. Stoops, introduced the subject by reference to the points of difference between the theories of McDougall and of Woodworth. He sought to show that in the main the former's views are tenable, whereas Woodworth's distinctive tenets destroy the possibility of any real theory of volition. The drift of ensuing discussion indicated a general opinion that Woodworth's modifications of McDougall's theory are unnecessary and are in themselves unsatisfactory.

At the business meeting, the Division went on record as favoring a joint meeting with the Eastern Division, preferably at Cornell University, early in September next. Final decisions, however, were left to the committee which has had the matter in hand. The Executive Committee was empowered with the determination of the time and the place of the next annual meeting of the Division. The Treasurer reported the possession of forty war savings stamps, in

addition to $9.08 in cash and checks, and balances of $71.52 and of $92.57, respectively, in the savings and the checking bank accounts.

In recognition of her interest in the work of the Division and in the development of philosophical thought in America, Mrs. Mary Hegeler Carus was elected to honorary membership in the Division. The following persons were added to the regular membership: Messrs. William A. Croley, G. A. Deglman, Denton L. Geyer, Frazer Hood, S. F. MacLennan, George A. Mulfinger, Edward Z. Rowell, C. F. Taeusch.

The officers elected for the coming year were: *President,* E. S. Ames; *Vice-President,* David Swenson; *Secretary-Treasurer,* G. A. Tawney.

Papers read at the meeting may be summarized as follows:

Standard of Moral Conduct: G. A. DEGLMAN.

I. The necessity of a moral standard by means of which human actions may be harmonized. Human life of necessity must be dominated by principles. How can these principles be determined?

II. The direction of the moral control of human activity may be discovered by examining into the *ends* of human actions. Human actions are those which proceed from man as man under the guidance of reason. By "end" is meant not the consequences of the action, but the object naturally desired or aimed at.

Observation shows that everything which moves tends to the attainment of an end. The character of the movement is determined by the end. Hence actions also receive their character from the end which they subserve.

However, in a dependent series of actions there must be an *ultimate end.* The series of means and end considered in Moral Science is a dependent series. It must consequently finish somewhere with an end which is final, which is desired for its own sake. This ultimate end must, furthermore, be common to all men. All intermediate ends must be directed, either implicitly or explicitly, towards it.

III. This *ultimate end* is twofold: Objective and subjective. The ultimate *objective* end is the object ultimately desired. The *subjective* ultimate end is the possession of this object. We are considering here the ultimate objective end.

Can this objective end be determined? The final end of man must necessarily be an end which fully satisfies the highest natural capacity of man. This thought leads us logically to the admission of the Supreme Good, which is not an abstraction, but a personal being—God.

IV. Having established the final end of human action, we next

inquire into the *standard* by which we may judge whether or no human actions are directed to this final end.

Such a standard is necessary. A standard, in general, is a test of anything. A moral standard is a test of moral good and moral evil. Our inquiry is concerned with the *primary* or *basic standard,* not with any derivative standards. The nature and conditions of such a standard—it must be absolutely true and reliable, stable and unchangeable, universal, and practicable.

V. *The moral standard specified.* It must be the link between human action and the ultimate end. A man tends to the ultimate natural end when he tends to the immediate natural end of his being as man—as a rational being. Man's rational nature as such, with all its essential relations to the entire world of being—to himself, to fellowman, to human society, to God—is the primary standard of moral conduct.

Ethical Subjectivism: F. C. SHARP.

On foundations laid down by Hume, but not hitherto completely elaborated, this paper attempts to enumerate the fundamental types of moral judgment, to present a criterion for distinguishing between the valid and the invalid, and through these means to establish the existence of a single code valid for the entire race. When the plain man applies the adjective " right " to an intention or purpose, he means that it is one which would be approved by an impartial observer, in the sense of one who had abstracted from the relations of the action to his own personal interests, and in general from its accidental relationship to himself in every way whatever. A judgment conforming to this criterion is " correct " or valid. It has its source in what may be called an impersonal desire for good as such. The fact that when the layman finds any two of his judgments inconsistent (" contradictory ") he unhesitatingly recognizes that one of them must be invalid (" false ") shows that " right " means that which is the expression of a consistent ideal. But consistency is only persistency in the use of a principle, or " identity of spirit through a variety of measures." It follows that if the impartial desire for the realization of good is the source of some of our valid judgments, it must be the source of all. In the face, then, of the actual variety of moral judgments it is possible to assert the existence of one universally valid code, that which follows from a consistent application of the impartial desire for good as such.

Human Nature: H. B. ALEXANDER.

Human Nature, especially in those of its aspects which have a social or ethical implication, possesses a form or character, univer-

sal in all human beings who are properly men. This is recognized in the traditional definition of man as a " rational " animal; for what is essentially distinctive of man is his rational nature. This is the key to all purposive conduct and hence to all humane forms of experience. There is not, however, but a single set of rational or purposive forms: reasonableness in conduct varies with age, and one may indeed say that the essentially humane life is one which shows a progress of interests through a lifetime. Furthermore in civilized societies interests are developed governing purposes which lead beyond the individual experience of men's lives, taken in severalty, and this in two directions: (1) in the formation of impersonal modes of judgment, " cold reason," which are of importance in all societies, and are the sole justification of democratic forms of polity; and (2) in the gradual engrossing of a man in his " work " which becomes an end more important than his individual life, and hence an end of prime social significance. Civilization consists essentially in the development of a society in which these two forms become paramount.

Mind and the Subconscious: C. E. Cory.

There is no unconscious mind. There are, however, mental processes unknown to the primary self. In case of dissociation conscious centers may be formed capable of highly reflected thought. The writing of Mrs. Curran shows the possibilities of such subconscious activity. Here we have not only remarkable memory but creative thought of a high order. The facts in this case force us to make larger concessions to the subconscious than have hitherto seemed necessary. And these facts may also throw much light upon some of the works of genius.

Are Instincts Data or Hypotheses? E. E. Faris.

The old question of the nature of instincts and their existence in the human being has been discussed for a long time and is still a live issue. William James went to much pains to demonstrate the existence of instincts in the human being and described more than thirty. Angell accepted the general position but rejected some of the instincts which James included. McDougall suggested a criterion and reduced the number to fifteen. Rivers and Trotter have four. In Thomas's older work there are two. Freud has only one. The object of this paper is to call attention to the fact that instincts are always overlaid with experience and are therefore never the subjects of direct observation, except in the infant. Instincts are hypotheses to explain facts, and as such may have value, but they are not facts of observation. Moreover, they are the result of the

genetic method which involves a logical error: namely, that of jumping from problem to solution without passing through intermediate stages. It would be better to confine attention to wishes, desires, and purposes, as Thomas has done in the " Polish Peasant."

Significance from the Standpoint of Behaviorism: G. H. MEAD.
(Abstract not available.)

The Fate of Pragmatism: C. F. TAEUSCH.

The two major " wings " of pragmatism are approximating respectively the older philosophical schools, realism and idealism.

The emphasis on the kinesthetic mode of experience and control is common to both realism and pragmatism, and an important factor in each. If the pragmatist insists that this control operates only mediately through the sensation congeries, he must choose between a naive realism or pluralistic subjectivism. If the control operates directly through the kinesthetic sense, then he becomes a monistic subjectivist. This emphasis on kinesthesis, even as worked out in the doctrine of empathy, is a reaction against the prominence hitherto played in classical idealism and modern science by the elements of the visual category.

Pluralism, the first derivative of pragmatism, involves the discrepancy of ends, which in turn will not admit of the control which is so important to the pragmatist. This is particularly true in connection with the time-worn problem of evil, in the esthetic situation in tragedy, in logical implication; in practical affairs, witness the inability to " make Germany pay," and the failure of any rearrangement of our present social and economic order to provide proper living conditions for all people. We can, in short, experience situations over which we have no control, indeed which derive much of their value because they can not be controlled. James and Bergson, in their treatment of the traditional problem of the freedom of the will, ultimately fall back on the power to sustain and to generate and direct imagery respectively—a doctrine only partially, if at all, tenable. Philosophy, if it is to continue to be an all-comprehensive discipline, can not restrict itself to such elements as are subject to " reconstruction "; " participation " is every bit as important a concept.

Pluralism in the Theory of Value: A. P. BROGAN.

Writers on ethics and the theory of value have tended to be either objective monists or subjective pluralists. A quite different doctrine may be found in a combination of pluralism with objectivism.

That values are plural can be shown not only by their empirical variety but also by the fact that the fundamental value universal is betterness.

We have no proof that there is a limit (best or worst) to the value series. No such supreme value is needed to show the objectivity of value. Nor have we any justification for demanding that values must be measured by any single formula such as hedonism gives. Monistic theories are false, and even if they were true they would not prove objectivism.

But pluralism does not prove subjectivism. Plurality and relationship do not prove epistemological relativity. The diversity and conflicts among our valuations can be explained without assuming subjectivism. So pluralism is compatible with objectivism.

The development of an objective pluralism will be more complicated than the extremely simple objective monisms or subjective pluralisms. But it will be more adapted to scientific treatment.

A Philosophical Survey of Culture: G. D. WALCOTT.

The paper presents some of the main features of a companion course to the one on "The World of To-day" which the writer described at the last annual meeting. The course aims to give a kind of cross-sectional view of social evolution, based upon recent historical investigations. After considering the economic, political, moral and religious aspects of primitive life, both savage and barbarous, attention is turned to a comparative study of civilizations, both ancient non-European and European. In connection with the latter, consideration is given to the change in political thought represented by the Constitution of Cleisthenes, and it is pointed out that modern nations, in so far as they are qualitatively and not merely chronologically modern, are based upon the same fundamental principle of citizenship. Stress is laid on the view, obtained in part from Paulsen, that modern Europe and America represent a new civilization, comparable with the civilizations of the past, but really only beginning upon a career, the maximum achievements of which no one may at present predict with certainty. European is contrasted with Europeanistic, meaning by the latter some phases of South American life, and of British Egypt and India, the coast cities of China, and Japan in part. Such a course makes possible an appreciation of present-day life, oftentimes obscured by limited intensive studies and the traditional philosophic interpretations.

A Redefinition of the Field of Philosophy: E. D. STARBUCK.

This paper is a mere corollary to the one published in the current March number of the *Journal of Religion*. The latter dis-

cussion argues that the most vitalizing hold on truth or reality and the most significant judgments of value are in terms of the imagery connected with the " intimate sensory processes " rather than that of the " defining sensory processes," that is, the spatial and relational functions to which the so-called " higher " senses are addicted. Philosophy needs such a redefinition of its field and problems as will allow the immediacy values conditioned by the intimate senses as fundamental a place as have those connected with the life of cognition. Ethics, esthetics and the science of religion should be made to feel at home in the philosophical household as legitimate children and not as orphans and foundlings. Such a redefinition might be this: *philosophy is the expression, in definite form, for the sake of intercommunication, of the highest values;* and by " highest " one should mean most highly organized and integrated, most significant and satisfying and giving promise of abiding worth.

These values will fall naturally into three classes, the first two conditioned heavily by the defining functions and the third by the intimate sensory and imaginal processes: (*a*) metaphysics (Being), (*b*) epistemology (Knowledge), and (*c*) worth and value as such (Meaning).

The full recognition of the immediacy values and their psychological setting will not only give ethics, esthetics and the science of religion a " ground-floor " place in philosophy, but will help " solve " the problems of being and knowledge. It will certainly cut under many of the deadlocks and impasses created by the conceptual and judgmental processes.

The history of philosophy has been chronically fond of tracing out simply the record of system-building. It may well become more hospitable to the wisdom of poets, such as Browning and Tennyson, to the religious writers as set forth in the Upanishads and the Sermon on the Mount and to the message of art as expounded by Wagner and Rodin. Emerson, Marcus Aurelius and Confucius have as rightful place in a course in Ethics as have Bentham, Shaftesbury and Martineau.

Philosophy as a whole might gain by feeding a little less on the " chopped straw " (James) of conceptual systems and a little more on the bread of life.

EDWARD L. SCHAUB

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PHILOSOPHY AS WORK AND PLAY

IN Miss Parkhurst's sprightly and interesting account of the recent meeting of the Eastern Division of the Philosophical Association, I find a somewhat distorted report of the distinction

that I drew between two classes of philosophical problems. That she—and, very likely, others—should have failed to get my exact point is of no consequence. But the point itself seems to me worth serious attention.

My contention was that all philosophy can be divided into two parts, the one containing those problems that have appreciable practical bearings, the other containing those whose solution would make no or slight difference to practise. That there are problems of this latter class I am convinced; among them I place the epistemological problem which seven of us have co-operated in analyzing in the volume, *Essays in Critical Realism*, recently published. We think that our solution is the right one. But so far as I can see, the acceptance of our solution rather than that of, say, the neo-realistic sextet, would have no practical bearing upon anybody's conduct—except, of course, in the specific matter of affecting how he should thereafter write or teach upon that particular subject.

Now the devotion to such impractical problems I called "play," in the broad sense of the term. That is, it is an activity that exists not as a means to something else, but for its own sake. It is its own excuse for being, like the greater part of our artistic activity, our games and sports, and much of what we call "culture." Metaphysics is not only a "genteel" substitute for chess, it is a glorious, exhilarating substitute. Focusing our minds as it does upon the cosmos, its origin or nature or destiny, or some aspect of our situation in it, it deals with real rather than with artificial problems, and so is, for those qualified to pursue it, in the words of another member of our association, "the king of indoor sports."

The fact that the discussion—or even the solution—of these problems is not doing the *work* of the world is no objection to it. Not only when the millennium comes, but right now, it is well for us to play as much as is consistent with the more serious duties which demand out attention. Our hope should be to increase from generation to generation the amount of time and energy that may be left over from the work of life for sheer enjoyment. Whether we find that enjoyment in metaphysics or in music or in the higher mathematics or in history or in travel, is of relatively minor importance. These, and many other such, are legitimate satisfactions, worthy of being cultivated.

But I can not help feeling that it is yet too soon in the world's history for us to dally too exclusively with play. There are millions of men and women suffering or dying for lack of the prevalence of reason in the ordering of human life. The student of philosophy is in a position to help. He can formulate and teach insights that will have their part in bringing order out of confusion, in replacing

injustice and cruelty by justice and happiness. It is by no means calling the philosopher aside from his historic function to ask him to consider these more practically urgent problems. On the contrary, the historic philosophers have often been of very great service in this way.

Professor Mecklin is right, of course, in saying that the philosopher is not (*qua* philosopher) a social reformer. He usually must leave to others the actual application of his ideas. He is a thinker, teacher, writer. But his analyses and generalizations and explanations and analogies may be very valuable to the social reformer—if he devotes a considerable part of his thought to the consideration of the moral conflicts and confusions of his day. Professor Mecklin stressed this practical value of philosophy, and I am not aware of any disagreement between us.

But when Miss Parkhurst puts into my mouth the utterance that "the contemplation of ideas is justifiable in that it satisfies a harmless human impulse," she forgets my exact wording and the context of the statement. I was speaking of the interest in problems that have inappreciable practical bearing. There is, of course, just as much scope for the contemplation of ideas in the wide field of problems that have practical bearing. I would have the intellect harnessed up in the service of life—more students of philosophy devoting themselves to the more *fruitful* forms of intellectual activity. Heaven knows we need intellectual activity; but we need it at the points where it will change something. This is not "anti-intellectualism" in the technical sense; it is pragmatism only in the very loose sense of that term in which it means a predominating interest in what bears upon practise.

Professor Pratt declared that the function of philosophy is to foster the life of the spirit. Well and good. But what *is* the life of the spirit? Is it a retreat from the world, a self-indulgent dreaming, a building of cosmic air-castles, a contemplation of ideas *in vacuo*? Or is it a dedication of our minds and hearts and wills to ideas and ideals that will help to make reason prevail in the practical exigencies of life?

There is room for disagreement, of course, as to the degree in which any given philosophical problem is practical. Personally, I believe that many of the most *interesting* problems of philosophy have slight logical bearing upon conduct. Are relations external or internal? Is there a realistic universe? Was there a First Cause? Is there a God? Is determinism or indeterminism true? Are we immortal? We should like to know, we enjoy speculating on these problems; it is worth while, if only to rid our minds of a lot of rubbish that commonly passes for knowledge. But whatever

answers we give to such questions, our interests and duties remain essentially the same.

My plea was that we spare more time from the discussion of these fascinating and time-honored problems for the investigation of our actual human interests, and the means to their realization. There is at present so much darkness here, so much prejudice, so much obscuring passion, men and women are floundering so piteously and making such a mess of their lives, that their Macedonian cry should indeed meet with response from philosophy. There is work here for everybody. The rational ordering of human life on earth is a task that needs the economist, the statesman, the sociologist, and a hundred others; but it needs the philosopher too.

Keep on, then, metaphysicians, epistemologists, historians, North Pole explorers, and all the rest, in your attempts to gratify your insatiable curiosity. We too are eager to know what can be known in these far-off fields. But do not assume airs, as if you were the priests and guardians of man's highest instincts. There are, after all, more urgent affairs to be attended to just now. And the greatest philosopher, like the greatest poet, is he whose vision is like a pillar of fire, showing the way in which they shall walk to those who are bearing the brunt of the battle, doing the work of the world.

DURANT DRAKE

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REVIEWS AND ABSTRACTS OF LITERATURE

Pascal. KARL BORNHAUSEN. Basel: Verlag von Friedrich Reinhardt. 1920. Pp. xi + 286.

Professor Bornhausen, formerly of Marburg, now of Breslau, has already made notable contributions to Pascal research (*Die Ethik Pascals*, 1907). His present work is the "first historical-critical biography of Pascal in German." It was written almost wholly while the author was a prisoner of war in France.

Bornhausen divides Pascal's life into three periods: to the death of his father 1651, between the world and the new birth 1651–1655, and the new life 1655–1662. At the appropriate chronological points appear translations of the more important minor writings of Pascal, based largely on a critical revision of Herber-Rohow's translation; but only a few lines are quoted from the *Provinciales* and the *Pensées*. While this method doubtless has a practical justification, the result is less than justice to the rich content of Pascal's masterpieces.

Some of the author's theses are briefly to be summarized as follows. The *Discours sur les passions de l'amour* is genuine, although it is possible to doubt it. Pascal owed nothing of importance to

Descartes in connection with the famous experiment to prove the pressure of the air. The treatise *De l'esprit géométrique* is not to be dated 1658 (as Brunschvicg), nor early in 1655 (as Strowski), but Sept.–Nov. 1654, prior to the ecstatic night of the second conversion, Nov. 23 (as Cassirer); if this dating be correct, it leads to a valuable addition to our knowledge of the intellectual antecedents of Pascal's conversion. Bornhausen subjects the so-called "amulet" to a searching and sympathetic analysis; its last three lines with their reference to "Total submission to Jesus Christ and to my director" he regards as genuine, but not a product of the experience of the conversion night.

Philosophically most significant is the treatment of Pascal's *"esprit de finesse"* and *"coeur"* (pp. 77, 250 ff.). Bornhausen undertakes to defend Pascal against the charge of being a theologian of feeling, or a dualist in whom heart and head are separated, as in Jacobi. The heart, which has reasons that the reason does not know, is not far different from what Descartes meant by intuition. Now, "for Descartes, intuition was an intellectual process, immediate perception of the intellect without the aid of judgment." Thus Pascal says that "the heart feels tridimensional space." To identify "heart" with *"Gefühlskraft"* is misleading. It is rather a source of spiritual certainty analogous to the method of the understanding. "What Rousseau later designates *'sentiment,'* what appears in Bergson and the modern nature-mysticism as intuition is much vaguer than what Pascal understands by *'coeur'!"* This interpretation of Pascal is sufficiently important to have been worthy of a fuller and more explicit discussion than it received.

The book gives a picture of the personality and life of Pascal that no student of the thought of the 17th century can well overlook.

EDGAR S. BRIGHTMAN

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Beauty and the Beast, an Essay in Evolutionary Æsthetic. STEWART A. MCDOWALL. Cambridge University Press. 1920. Pp. 93.

This book is written with the intention of making an emendation to Croce's theory of esthetic. Croce's view is accepted on the whole, but Mr. McDowall feels that Croce's "intuition" is left unexplained with the consequence that Croce's whole theory and definition of beauty are left hanging in the air. Mr. McDowall undertakes to build a foundation for Croce's system, and he does this by postulating a personal God and explaining the intuition as the consciousness of relation ultimately with God. This consciousness of relation is Love. It has its origin in the sex instinct, but is not to be thought

explained by the sex instinct, since that would be committing the fallacy of considering things explained by their origin.

In the reviewer's opinion, Mr. McDowall's proposed amendment is hardly an improvement upon Croce's rounded theory. It savors of the missionary spirit, and there are some of us who prefer the unconverted pagan.

S. C. PEPPER.

UNIVERSITY OF CALIFORNIA.

JOURNALS AND NEW BOOKS

SCIENTIA, March, 1921. *Les contributions des différents peuples au développement des mathématiques. I. Événements mémorables et hommes représentatifs dans l'histoire des mathématiques* (pp. 169–184): GINO LORIA (Genoa). – Sketchy preliminary survey of the history of mathematics. *The Conservation of Coal Resources* (pp. 185–192): J. W. GREGORY (Glasgow). – Our coal supplies are not likely to be soon exhausted, but are becoming less accessible. *La base chimique de la croissance et de la longévité* (pp. 193–206): T. BRAILSFORD ROBERTSON (Australia). – An interesting and suggestive survey of recent researches into the strife of tissues within the body. *Sur la question religieuse dans la France d'aujourd'hui. II. Les difficultés d'un compromis entre la République et l'Eglise* (pp. 270–216): CHAS. GUIGNEBERT (Paris). – Very unfavorable characterization of the present state of the Roman Church in France. *Book Reviews.* A. Badoureau, *Causeries philosophiques:* A. MICHEL. C. M. Jessop, *A Treatise on the Line Complex* (1903); L. D. Weld, *Theory of Errors and Least Squares* (1916); J. Hadamard, *Four Lectures on Mathematics delivered at Columbia University in 1911;* L. De Ball, *Lehrbuch der sphärischen Astronomie* (1912): GAETANO SCORZA. Astronomical Society of the Pacific, *The Adolfo Stahl Lectures in Astronomy;* F. W. Dyson and others, *A Determination of the Deflection of Light by the Sun's gravitational Field;* F. W. Wery, *The Luminiferous Ether:* G. ARMELLINI. P. Burgatti, *Lezioni di meccanica razionale,* second edition, 1914: LAVORO AMADUZZI. F. Soddy, *Le Radium* (French edition, from the third English); W. Makower and H. Geiger, *Mesures pratiques en radioactivité* (translated from English by E. Philippi); L. Rougier, *La matérialisation de l'énergie:* A. BOUTARIC. P. E. Browing, *Introduction to the Rare Elements* (four edition); J. F. Spencer, *Metals of the Rare Earths:* B. L. VANZETTI. L. Doncaster, *An Introduction to the Study of Cytology;* T. H. Morgan, *The Physical Basis of Heredity:* J. ARTHUR THOMSON. Chas. Fiessinger, *Les maladies des*

caractères (1916 edition): O. POLIMANTI. G. Hersent, *La réforme de l'éducation nationale:* L. HOULLEVIGUE. E. Huntington, *World-Power and Evolution:* L. DE MARCHI. M. P. Follet, *The New State;* H. J. W. Hetherington and J. K. Muirhead, *Social Purpose:* C. DELISLE BURNS. L. Duguit, *Manuel de droit constitutionnel* (Third edition, 1918); P. Chimienti, *Manuale di diritto costituzionale,* 2 vols.: A. VISCONTI. C. Barbagallo, *Verso la Società delle Nazioni;* F. Buisson and others, *Vers la Société des Nations:* A. GROPPALI. *Periodicals, Congresses, etc.*

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NOTES AND NEWS

A mark of recent philosophy in the United States has been the growth of the interest in empirical accuracy. The following definitions of philosophy, culled from the examination papers of Sophomores, and communicated by a friend of the JOURNAL, show that the spirit of empiricism is making excellent progress:

Philosophy is an attempt to pierce the veil which philosophers have cast over the world.

Philosophy is a study of that which is not that which it seems to be.

Philosophy makes exquisite that which is implicit.

A meeting of the Aristotelian Society was held on July 4, Professor G. Dawes Hicks, Vice-President, in the chair. A paper entitled "On Arguing in a Circle," was presented by Dr. F. C. S. Schiller. A scientific system is essentially *partial*. Being constructed by selections and exclusions and relative to a purpose it contains no warrant for the postulation of any all-embracing system. Objections to a system can not be met by arguing within it. To meet a challenge it must obtain outside support. If it is to give satisfaction it must not close itself, but remain open to correction. The sciences are such systems and so escape the charge of circularity. An all-embracing system is not a valid ideal because inability to select would reduce it to chaos, while if logically complete it could be rejected as a whole. Also it is self-contradictory, for either it can be enlarged to satisfy objections and then it is not all-embracing or it can not be enlarged and then it argues in a circle. If it presupposes relativity to purpose, it can not reach absoluteness. The attempt to base inference on implication within an ideal system is no improvement on formal logic, but merely a half-way house to a complete surrender of the notion of "formal validity."

Professor J. W. Scott, of the University College, Cardiff, Wales, has been appointed Mills Lecturer in Philosophy at the University of California for the coming year. He will take the place of Professor G. P. Adams, who intends to spend his sabbatical year in England and France. Professor Adams has been invited to give a series of lectures on Social Philosophy at the Sorbonne.